REMARKS

Claims 14, 16, and 18-27 are pending. By this Amendment, the title is amended; claims 1-13, 15 and 17 are cancelled without prejudice or disclaimer; claims 14, 16, 18 and 19 are amended; and claims 21- 27 are added. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

The title was objected to. The title has been amended in accordance with the suggestion of the Office Action. Reconsideration and withdrawal of the objection to the title are respectfully requested.

Claims 1-12 were rejected under 35 U.S.C. §112, 2nd paragraph.

Claims 1-13, 15 and 17 have been cancelled thus rendering moot their rejection.

Claims 14 and 19 have been amended in accordance with the suggestion of the Office Action. The rejection of claim 20 under 35 U.S.C. §112, 2nd paragraph is discussed below in conjunction with the rejection under 35 U.S.C. § 101.

Reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, 2nd paragraph are respectfully requested.

Claims 10, 11 and 20 were rejected under 35 U.S.C. §101.

Claims 10 and 11 have cancelled without prejudice or disclaimer thus rendering moot their rejection.

With respect to claim 20, the recitation of "utilizing" is definite under 35 U.S.C. § 112, 2nd paragraph. See Ex parte Porter, 25 USPQ2d 1144 (Bd. Pat. App. & Inter. 1992) and MPEP § 2173.05(q). In addition, claim 20 depends on claim 14 and thus includes all of the features of claim 14. MPEP § 2172.02 I states "Generally speaking, however, a dependent claim will define an invention that has utility if the claim from which it depends has defined an invention having utility." As claim 14 clearly defines an invention having utility, it is respectfully submitted that claim dependent 20 also defines an invention having utility.

Reconsideration and withdrawal of the rejection under 35 U.S.C. § 101 are respectfully requested.

Claim 12 was rejected under 35 U.S.C. § 102(e) over Shiraishi et al. (U.S. Patent 5,939,130) and claims 14, 15 and 18 were rejected under 35 U.S.C. § 103(a) over Shiraishi et al.

Claim 12 has been cancelled without prejudice or disclaimer thus rendering moot its rejection.

Claim 14 recites controlling a thickness of the first layer formed on the first substrate to a predetermined thickness by controlling at least one of the dosing pump, a position of the dosing arm with respect to the first substrate, and a rotary speed of the rotary drive in response to at least one of a temperature of the first substrate, a temperature of the viscous fluid, and a viscosity of the viscous fluid.

Shiraishi et al. disclose a method of forming a coating film including keeping preliminary correlation data representing the correlation between the rotating speed of a substrate, the temperature of a resist liquid to be coated, the temperature of the upper surface of the substrate and the thickness of the resist coating film formed on the substrate and controlling a rotating speed of a drive motor 16 on the basis of a detected film thickness and the preliminary correlation data.

Shiraishi et al., however, control the rotary speed of the motor 16 to correct the thickness of the coating on the next, or subsequent, substrate. See for example, column 2, lines 31-37; column 11, lines 5-11 and 46-50; column 13, lines 39-45 and 50-54; and column 14, lines 52-58 and 63-67. The temperature of the first substrate of Shiraishi et al. will be used to control the rotary speed of the subsequent, or second, substrate, and the temperature of the second substrate will be used to control the rotary speed of the third substrate, and so on. In other words, Shiraishi et al. do not disclose or suggest controlling a rotary drive to

control the thickness of a first layer on a first substrate in response to the temperature of the first substrate, as recited in claim 14. Accordingly, Shiraishi et al. cannot anticipate or render obvious claim 14.

Claims 16 and 18-27 recite additional features of the invention and are allowable for the same reasons discussed above with respect to claim 14.

Claims 1-6, 10, 11 and 13-20 were rejected under 35 U.S.C. §103(a) over Kashiwagi et al. (U.S. Patent 5,938,891) in view of Lin (EP 0 595 749 A2) and Sasaki (Japanese Patent Publication 59-151424). The rejection is respectfully traversed.

Claims 1-6, 10, 11 and 13 have been cancelled without prejudice or disclaimer thus rendering moot their rejection.

Kashiwagi et al. disclose a disk bonding system including an adhesive supplying section AS, N for supplying a liquid adhesive on a first disk DS1, a disk handling section R1, T1, T2 for mating the first disk DS1 with a second disk DS2, a spin coating section CH1, CH2, R2, EH for spreading the adhesive between the first and second disks DS1 and DS2 and a curing section UV1, T3, A1-4, CL for curing the adhesive. Kashiwagi et al. do not disclose or suggest regulating the thickness of the adhesive applied to the first disk DS1 until the first and second disks DS1 and DS2 are joined together to form the bonded disk DS3. See column 6, lines 19-30.

Lin and Sasaki each disclose controlling the speed of a motor to control the thickness of a resist or coating film applied to a substrate. It is respectfully submitted, however, that there is no motivation, absent Applicants', to combine either Lin or Sasaki with Kashiwagi et al. As discussed above, Kashiwagi et al. do not even spin the first disk DS1 after the adhesive is applied. Instead, Kashiwagi et al. wait until the second disc DS2 is joined to the first disk DS1 to spin the bonded disc DS3 created by the joining of the first disk DS1 and second disk DS2 to control the layer of liquid adhesive. One of ordinary skill in the art

would not spin the first disk DS1 of Kashiwagi et al. after application of the liquid adhesive at the adhesive supplying section AS, N as that would increase the amount of time necessary to create the bonded disks DS3. Kashiwagi et al.'s stated goal is to more efficiently utilize the spin coating section. Adding the additional step of spinning the first disk DS1 to control the thickness of the liquid adhesive layer, as suggested by the Office Action, would decrease, not increase, the efficiency of the disk bonding system of Kashiwagi et al.

Claims 16 and 18-27 recite additional features of the invention and are allowable at least for the reasons discussed above with respect to claim 14 and for the additional features recited therein.

Reconsideration and withdrawal of the rejection of claims 1-6, 10, 11 and 13-20 under 35 U.S.C. §103(a) over Kashiwagi et al. in Lin and Sasaki are respectfully requested.

Claims 7-9 and 12 were rejected under 35 U.S.C. §103(a) over Kashiwagi et al. in view of Lin and Sasaki and further in view of Yasuda et al. (Japanese Publication No. 7-29809.

Claims 7-9 and 12 have been cancelled without prejudice or disclaimer thus rendering moot their rejection.

In view of the above amendments and remarks, Applicants respectfully submit that all of the claims are allowable and that the entire application is in condition for allowance.

Should the Examiner believe that anything further is desirable to place the application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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Attachment:
Appendix (pp. 10-11)

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES

IN THE TITLE:

The Title is changed as follows:

METHOD AND DEVICE FOR [REGULATING THE COATING THICKNESS, ESPECIALLY BOND COATING] CONTROLLING THICKNESS DURING SPIN COATING

IN THE CLAIMS:

Claims 14, 16, 18 and 19 are amended as follows:

14. (Amended) A method of applying at least one layer of a viscous fluid onto at least one planar substrate, comprising:

pumping the viscous fluid with a dosing pump to a dosing arm connected to the dosing pump and positioned over the at least one substrate;

forming a first layer on a first substrate by dosing the first substrate with viscous fluid from the dosing arm;

rotating the first substrate with a rotary drive; and

controlling a thickness of the first layer formed on the first substrate to a predetermined thickness by controlling at least one of the dosing pump, a position of the dosing arm with respect to the first substrate, and a rotary speed of the rotary drive in response to [variables] at least one of a temperature of the first substrate, a temperature of the viscous fluid, and a viscosity of the viscous fluid.

16. (Amended) The method according to claim [15] 14, further comprising:

connecting a second substrate to the first layer of viscous fluid formed on the first substrate with a connector;

forming a second layer of viscous material between the first and second substrates by spinning off excess viscous fluid of the first layer between the first substrate and the second substrate with a rotary centrifugal drive; and

controlling a thickness of the second layer by controlling at least one of a connecting pressure of the connector and a rotary speed of the rotary centrifugal drive in response to at least one of the temperature of the first substrate, the temperature of the viscous fluid, the viscosity of the viscous fluid, and a temperature of the second substrate.

18. (Amended) The method according to claim 14, further comprising:

measuring the thickness of the first layer; and

automatically adjusting deviations between the measured thickness of the first layer and the predetermined thickness to within at least one tolerance.

19. (Amended) The method according to claim [14] 18, wherein the [predetermined thickness] at least one tolerance includes a range in at least one of a radial direction of the first substrate and a tangential direction of the first substrate.

Claims 21-27 are new.

End of Appendix.

Bib Data Sheet

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**** CONTINUING DATA ***************************

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Verified and Acknowledged: _____ Examiner's Signature Initials

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TITLE

3 METHOD AND DEVICE FOR ~~REGULATING THE THICKNESS, SPECIALLY BOND COATING THICKNESS, OF A LAYER~~ CONTROLLING THICKNESS DURING SPIN COATING

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